Stanford eCorner

A Healthy Respect for Innovation [Entire Talk]

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Sue Siegel, CEO of GE's healthymagination unit, offers sound advice from her experiences commercializing new technologies and innovations in the fields of biomedicine and healthcare. Siegel also explains how innovation is created in organizations of all sizes, how values impact the quality of team performance, and ways for evaluating career decisions.

Transcript

Well, good afternoon and thanks for coming out on what was an incredibly stormy day and, you know, I have to say - before I even get started, I want to thank Tina, Tom, Tom and Matt for inviting me here. And I have to tell you, over the last few semesters Tina has actually tried to get me out here and we just couldn't ever find the Venn diagram overlap on the actual opening in the series and the calendar. And finally I do it, and so what happens, I make Tina sick, so Tina is not here today, but I really do want to thank her for actually inviting me. What I also want to say is, I have had a lot of colleagues that have kind of actually been with you and they said they had a blast, just being able to present and the sort of questions that they were asked, so I would like to tell them that I actually had a blast too. So, for that I will say right now, in all honesty, it is an honor to be here, I thank you guys for paying attention and actually for actively participating, and I am going to be calling on you, so just heads up. So, first of all, you're probably wondering, when you think about - woops, what did I just do? Am I going right? Who am I, because lots of you have heard a lot of the other names and might not have heard my name previously. So, I come - first and foremost, I'm going to give you a very quick rundown. I was born in the Philippines, I will not take too long on this, but just to give you a little bit of background that I'm a 100%, okay? My mother and father their heritage are, my mother is Filipino-born, Spanish heritage and Chinese mother - yes, mother. My father was Haitian-born, French mother, German father, hence my last name Siegel. You with me? Alright.

I met up with them again at Yale where they were doing their graduate degrees and soon after that we went to Puerto Rico. So, I grew up in Puerto Rico, so you with me, so far, alright. And in Puerto Rico, I actually went to college, that's a long story, that's over drinks some time. And then, from there I went to Boston and did my graduate degree at Boston University Medical School, where I studied biochemistry and molecular biology, and it's also where I met my husband and - who is a biophysicist. Now, you might imagine, I've got two parents who are deep-deep academics, okay? Like hard core academics. And they were expecting me to be a hardcore academic, I married a biophysicist and so here I am in business, what happened? And I'll tell you my mother did not forgive me for a long time, how could I possibly leave the nobility of education to go into the commercialization world, into the world of business, and I have to tell you - and this is partially for you too is I am so glad I did it, because it was my passion. When I think about the nights, my husband and I - at the time, he wasn't my husband, but we would go back into the lab, because he wanted to be there, 2 o'clock in the morning, let's go. I'll tell you my passion wasn't there, but you tell me now let's get something done in terms of the business plan or something like that, I'll stay up all night. So, you by now probably know what is your passion, where is it that you are actually enjoying, you probably know what fields you actually gravitate to, you know whether you are a people person, you probably know whether you actually like to analyze data, you don't want to be doing a lot with people. You probably know whether you like to make presentation, you don't like to make presentations.

There is a lot of things that you probably already get a feeling. I knew that despite my generics and despite my nurture

environment, I wasn't for the world of academics. And so, I went on a whim, if you'd like almost, being invited when I was in the laboratory setting, to actually go work for a company, which I'll tell you about in a second. Now, let me give you a little bit more from Boston where I went to, I worked at a number of different companies, and I do want to spend a little bit of time on this and the different sizes of companies that I worked at, and the different flavor of these companies, but I also ended up in Chicago, so Boston, Chicago where I worked for Amersham, which interestingly enough was actually purchased by GE, and then from Amersham I came to Silicon Valley, and it's almost full circle, because the first company I worked for Bio-Rad is from this space. And I came to work for Amersham in Silicon Valley to start looking at the innovation landscape, it's going to be a recurring theme throughout the talk. And when I came, the world of Silicon Valley as you guys have experienced is just pretty awesome to say the least. For me at the time, it was just an overwhelming sort of wow, what a treasure chest. And within about nine months, I transferred jobs into Affymetrix. And Affymetrix is a small company and at the time it had probably around 70 people or so. This was - and I'll give you just a sense.

This was a time of the bubble, if you remember, some of you - actually, most of you probably wouldn't remember, but it was a time of great happiness, it really was, and we're hoping that that time of great happiness comes back. But, anyway, at Affymetrix, I learned a lot with regards to the startup world, with regards to truly - with a team of people making this commercialization technology into something that could actually get adopted, when it was so-so new, and I will spend a little bit of time on that. Now, last but not the least, now I am at GE, and it is big, I mean really big, it's hard for me to describe. So, let me give you a little bit of a sense of that, and GE has come to Silicon Valley. So, as you can see in terms of career sense, and as you are embarking on your careers, I will tell you some of you probably think you've got it all planned out, you know, exactly how it's going to go, it's going to be very linear, and you sort of know your path, and may be so for you. I will tell you right now it wasn't for me, in fact a lot of people will tell you, I've a five year plan, I have a 10 year plan, I have a 20 year plan, I'm here to tell you, I actually didn't have a plan. And my plan was all about going into academics, remember, and you know what I had to rip up that plan, and I had to follow my passion and you see in terms of the size of company, the complexity of the company, the footprint of the company, I have gone from big to small to big, I have gone from academics, and I have to mention I went into venture, and I'll speak a little bit about that and I'll tell you a little bit more about venture within GE. So, I had tons of questions just like you guys did and what we were going to do today was that actually Tina was going to interview me and because I made her sick, she was not able to do that. So, what I decided to do was I was going to put up some questions that you've probably asked and see if I couldn't help in terms of just giving you a little bit of a view of this, and then I'm going to invite you to just go ahead and start asking questions, if you like, so don't hold back. First of all, in terms of career planning, here are some questions that I sort of put up there, okay.

What are the critical things you need to be thinking about early in your career? What should you consider when evaluating a new opportunity or job? And again, you've probably done a lot of this already, and some of you probably know what your next step is going to be when you graduate. Some of you will decide you know what I'm going to do, more studying. But, when I think about it and as I've made transitions between different jobs, alright, this is a tool that I've used and I show you this, because it's not so much the score that you're going to end up with, it's actually the process and standardization of the consideration that you actually make for all of these. Now, this is, but an example. You will put your own attributes up on the Y-axis, this is actually from Excel spreadsheet. The inner geek in me, I'll tell you right now, so what I do is I put all the attributes, and these aren't all of them. In fact, I was going to pull one of mine - yeah, that's a little too personal, so - but let me just give you a sense of - I put the attributes, I then give them a waiting, and then I score from 1 to 5, either company A or company B or industry A or industry B. And by doing that, I come out with a score, okay? It's not the score that actually matters. In fact, I will tell you that when I was deciding between staying at Amersham at the time or going into Affymetrix, the score came out dead even. And the reason why I decided to actually go to Affymetrix was my husband said to me, are you going to stay a spectator in the genomic revolution or do you actually want to drive? And I thought like, crap, you can't ask me that question and expect me to stay where I am.

So, of course, I went, but the score was dead even. So what I encourage you to think about as you are actually going through any transition, and you are going to have your own methodologies, but this process actually helped me standardize the things that I was thinking about that were actually pretty important to me, and the methodology of that purpose made me realize that I at least thought through it. Now, mind you, I've done six or seven changes, so as I've gotten older I have to admit I'd become a little bit more thoughtful about some of the things that matter, and I think those will shift over time and that's totally okay. But just the fact that you put them down, you actually think through them, you force yourself to actually think about it is pretty meaningful. Now, the other thing I would say to you as you are thinking about things is some of you might have experienced this already if you have already worked in companies or not, if you haven't, it's - I advise folks have to do this, you write your own press release. Now, what am I talking about? So a lot of times if you have been a product manager in a company or you are thinking about launching some activity you write a press release around a product, and you know what the features are on those products and you give it the meaning and the positioning that you want to give it, because it's actually important. Now, think of yourself as the product. What are the key messages that you actually want your friends, your family, your colleagues, somebody in the future to actually think in terms of why this is meaningful for you to make these transitions. So as you think about - and nobody has to see this ever unless you want them to, but just the fact that you do this and you

actually write it down really helps you think am I making the right decision. Because really transitions are probably the most ambiguous times in your life, and so having tool sets that help you do this and you are going to invent your own, I'm just sharing with you the ones I have done and having been through it a few times they've been very, very helpful to me.

Now, another thing I will tell you about is what skills and tools have really served you well throughout your lives or careers and I'm going to share one with you and that is I think the - excuse me, when I think about skills, you learn a ton as it relates to skills in school, and you get taught how to do certain things, methodologies, processes, what not, tools if you'd like. But there are some skills you actually never really get taught, and those are things that are the soft skills and the higher you get in organizations, the bigger you get in organizations, actually those soft skills mean a bunch. And what are some of those soft skills. So when you think about it, the whole notion of just being able to work with other people, again it sound so obvious, but, yeah, I have to tell you and a number of the companies I have been in it's not so obvious, and in fact, when people get their reviews one of the things that actually get said is they need to learn to work with people more, they need to learn to work as part of the team, they have to realize that other people should get credit too that you are not the center of attention all the time that - and it just goes on and on. So that notion of team and that notion of the soft skills are actually pretty important. The other thing I will say in terms of some of the skill sets is, and again, you've probably learned this, is the notion of empathy. What am I talking about? You probably are going through it as you are going through classes, some of you are stronger in some classes, some of you are stronger in other classes. And so to be able to actually understand this, the whole notion of empathizing with other person when they, in fact, are part of the team, they bring a skill set, they are going to do something for you that's actually going to get your project done. But still being able to actually empathize with them in terms of the parts they don't understand is pretty important. In the corporation, it's actually the same.

And people want to know. And again, it sound so simple. But I will tell you that actually, it's not. People get mechanical about things and then realize that it is this personal empathy that actually people relate to and want to help you become successful. Having people want to help you by you also empathizing is a big deal, try it sometime, you'll actually surprise yourself, and you'll probably surprise the person too. Now, I'm going to give you something that, you know, this one was from 1998, I couldn't find one sooner. This is something I call ways of working. I've used it for years and this is something that as a manager or as a leader, as a team lead, as a project lead that I realize was pretty important. Leaders, as you have learned in your classes, or as you have lived in life, have to be able to set vision and goals. They have to be able to hire and fire and build teams, right? But in addition to that, you really do have to set the expectations particularly with regards to a culture.

So let me share something that when I start any job with any team that I work with, I essentially lay these out. You might tweak them here and there, you might create your own, but just the fact that you lay them out, and that, in fact, they are something that you talk through creates a real culture. So let me give you a sense. For example, if you are part of a team and this is for Healthymagination team right now within GE, we are all ambassadors for the team. That means that actually you need to support and represent the team wherever you are, and just understand that in fact that is that important. People look at that and they go that sounds so obvious. Well, but it's not, because if you go out there and say, you know, I don't agree with that, I don't believe that, you are going to get called on it, and I make that very clear to the folks that I work with. When I think of the issues within the team need to be resolved within the team, again, it sounds obvious, but laying this out when you start working with the team is actually pretty important. What does that mean? So you can go and say, you know what pretend to like it, go outside, talk about it, second guess the decisions, and I will tell you it will be one of the worst functioning teams that probably will exist, because you don't have the entity, you are not clear, and you are actually not coming together with regards to expectations. Let me give you a sense of when you think about the decisions.

Now, everybody gets a chance to actually debate, to argue as much as you possibly want in the room, and the leader, the manager, the project team leader whoever it might be has to set that tone. It's a notion of culture. And by doing that, it really encourages very, very strong debate and allowing for everybody to be able to air their concerns and really add to the richness of the decision-making. Once those decisions are made, however, in order for crisp execution to occur, in order for success of the team and individual success, you really need to make sure that in fact you have debated it internally and not second guessed it externally. One of the things I tell the teams that I work with is, hey, it's not that you never get to bring the decision back, you just don't get the second guess it - behind the scenes, you have to come back in front of us, you have to ask us, look us in the eyes and say, we, in fact, are going to revisit this decision for the following reasons and don't come in without some solutions too. Come in proactively. Just by setting those expectations, I have to tell you it's made such a difference, and this is - you know that you saw that the - it was 1998 that I've used this and whatever you are in now, it's actually lived, and the reason why is they're so simple but the key to it is that in fact what's happened is that we have the ability to make it very, very clear and we get a sort of common contract together. The other one I will tell you is this proactive product - project problem solving. What do I mean by that? So one of the things that happens is that folks say, particularly in organizations, they talk about you know what? He didn't do this right, and they go and they tell somebody else and they go and tell their manager. Where they can't resolve something and they go and tell somebody else without going first to the person that's actually caused the problem.

And you guys know how you feel when you haven't heard that there is a problem with you specifically, right, it's sort of human nature, in fact it just gets worse and escalates. So this whole escalation procedure, I always say go to the source first, always talk about that, create that culture of accountability and create the culture of respect between one another, it's remarkable, it actually works, if you hold yourselves accountable and you get the team to get into this contract with one another. The last one that I'll talk about is assume noble intend. This one seems more simple than not, but it's absolutely - probably the one that's the most elegant. When people are approaching you when there is problems, what do you guys think, right? Depending on who the person is you have your preconceived notions, and you tend to think whatever you are thinking first, but the reality of it is, if in fact you can just assume noble intend, assume they're actually coming to you with a good purpose in mind, setting this kind of culture, I have to tell you guys it's worked over and over again, it's put really high performing teams in place, it creates a culture of accountability, it creates a culture of respect. And as you start to move in to this corporate world or into the venture world or into a non-profit or wherever you go next, think about these hard and know what you've got to be able to represent. Okay, here is the next question. And everybody look at this screen, I'm just kidding, no, they just changed me, now I don't know what the screen is. I'm not quite sure what comes next but I am assuming that when you think about some of the biggest moments in learning for all of us, I have to tell you the following, and that is what is failure, okay, and you guys probably have felt your own failure in your own way, but I'll also say, I had - because Tina asked, you know, everybody learns from these failures, so - I want to share a story of failure that was pretty darn public, and probably pretty darn - to this day I remember, and it was very educational, and I'll tell you a silver lining came out of it too. It went like this.

So in the year 2000 I think you guys know the first draft of the human sequence was actually published. Around this publication, you can only imagine the incredible promise, and if you like the inspiration that it brought you would hear words as follows, which is, we have un-chartered territory in the human genome, we're going places where we've never been before, and this is so true, it really was true, and remember that automated DNA sequencing had really only been in place for about 10 years before the human genome sequence and then we moved into after having the first genome, and guess what, at Affymetrix we could take that genome, download it, package it and put it on to chips, how cool is that? Little, tiny little things using photolithographic processes, semiconductor processes here from Silicon Valley invented by Steve Fodor and making it so that you could package the genome anyway you want it so you could study us. So we could figure out why you're different from you, and if we are 99.9% the same why the hell don't I look like you, figure that out, those were the questions back in 2000. And it's remarkable when you think about that, the incredible promise that it held, so in 1998 when I joined Affymetrix it was pre-revenue, it was grant revenue, and we started to put things into place. I will say, back then, just so you know, and again remember, this is the time of great happiness, it's really important that you keep that in mind, stock market was sky rocketing, you wrote a business plan and guess what you got almost a billion dollars in market cap that fast, particularly in the internet world, okay. So, Affy, here we have a product, when I first started I have to admit, we couldn't make products, we were a chip company that couldn't make chips, but minor little detail, and so here we are off to the races, 1998 just grant revenue, at the end of 1998 I think we had about $20 million in revenue, at the end of 1999 we doubled to $50 million, at the end of the next year we were at about a $100 million in revenue, and we for about five or six years, we just doubled revenue every single year, it was fantastic ride. In 2001, we launched the mouse chip; in fact we launched it a little bit earlier than that. But what happened is because sequence was so new, they were depositing sequence, they being all the different researchers, into this public database, and again this was all new too, right, people used to hoard data. All of this sequence going into the database and what's happening is now we take that sequence and we put it on a chip and guess what, I started to get calls and people were saying, you know, I think the data is off, I think the sequence is backwards, I think - are you guys sure you put this down in the right direction, and I said no, this can't be, right. We're sky rocketing.

Young start up, public company young start up, alright, and we're getting these calls now from all over the world saying something is up. So we spent some time looking into it, trying to understand what in fact was going on, and you have to remember, none of these processes really put in place by anybody else, we were sort of setting the standard of what needed to get done. So, here we go, we get the company together, we talk, we try to find out what's going on, and guess what, some of the sequence that was put in to a particular database that we pulled out of was put in backwards, now whose responsibility is that? Who takes the responsibility, totally new, whole new processes, who does it? We debated it for probably a good two days, and ultimately whose product was it? So here we are, we are at about $4 billion in market cap, mind you, $4 billion, it's a small startup, do you understand the time of great happiness, okay. We have to make the call and we have to say, guess what, our products are not right, we are going to recall them, so this is what I call Affymetrix's tylenol moment, because it really was one of those situations where it was a crisis, nothing is serious because no deaths or anything like that occurred, thank goodness, but in fact what it did in terms of the whole bunch of research that was out there, being that the mouse model is one of the most used in research, and it was one of the most foundational, and remember lots of people's grants depended on this and they were moving so fast with the pace of research, because all of this was so new, everyone was in a competition and for us to announce that in fact these chips, 20% of the data was wrong, was really tough. We went overnight in about two days from $4 billion to $2 billion in market cap, and the next day after announcement I had to go down to the Goldman Sachs conference, down in Laguna Niguel where all these people who had invested in Affymetrix and actually publicly tell them that in fact we had lost them a ton of money, okay, because in fact these mistakes have been made. Now, that was tough, and if you

ever felt like a leaper that was the moment I felt like a leaper. There was nobody that wanted to actually come talk to us afterwards, because they had just invested like crazy like you wouldn't believe. But I said that there was a silver lining from all of this, and that is that customers ended up loving us, and here is why. They realized we stand behind our product, we tell the truth, we were accountable, and that in fact, this is the one thing I think about this now, should have I or shouldn't have I, and it goes like this. So, I told you 20% of the data was wrong, 80% was right, would you have taken back the chips, 80% of the data which they've never had before was right, do you refund them 20% of the money, do you refund them all the money, what do you do? You got to make this decision knowing what you know.

We refunded them all the money they still use the chips. I'm like damn, you think about that, because 80% of the data was right and they knew and they wrote - they were smart they wrote algorithms to actually make that happen. So that was a pretty public display of an incredible failure but I will tell you it was one of the lessons that I learned in terms of, one, corporate integrity, two, making sure that you are really connected with your customers, keeping customer center to actual mission and making sure that they were very satisfied. And the feedback we got over and over again after doing that was just fantastic. So corporate jungle and it is a corporate jungle, can I just see a show of hands how many of you are planning to go into the corporate world at this point, pretty much. Where are the other of you going, I'm just curious, venture. How many of you are thinking about venture? Cool. How many are thinking about the non-profit world? Yeah, that would be - just so you guys know because I know I can see it's zero so far. And the rest of you are sort of going - oh one, let me see you. Yeah, go.

I've got a job for you actually. Let me tell you one thing on this and I see a number of hands that are sort of - I actually saw a couple do this, and you are right not to really actually know at this particular time because you really don't. Oh goodness! Here we go again. So you saw corporate jungle, it was up there, right, and what I would like to tell you a little bit about now is, here is some questions for you to think about. The questions that I see, are you a big company person or are you a small company person. As you consider the opportunities that come at you, okay, do you already know that answer? Do you sort of know where you think you are going to end up? Typically in Silicon Valley the answer I get is I am a small person company, I am going to go build my own and I am going to go to a startup, that's typically what I hear. How is life different at either a startup or a big company, and I'm curious if you've got a sense for that. If you guys have thought about how life might be or maybe you've heard different things and I'd love to share some thoughts on that particular front having been part of both of those. The other question I suspect you ask is how do you actually affect change in whatever environment that you are in. so, knowing that, let's go through that a little bit, and we can't see right now is regardless of what size company you still have to do the same sort of elements, build teams, work within teams, if you are leading you need to hire, you also need to fire, a lot of people forget that portion of it, and I'll tell you some of the best decisions that some of the best leaders have made have been to fire people because you have to set the expectation with regards to what you want in terms of quality and what you expect in terms of delivery.

The other element of it is attitude, and I know this is going to sound like, well, my mamma taught me that. But, I have to tell you a lot of times the soft skills I was talking about; no matter if you are in a small company or in a big company, the decisions don't get made by like big huge committees in terms of you. Typically the decision gets made by your next manager or by your manger's manager with the manager, depends on the size of the company. But, it tells you a lot about your attitude, your willingness to actually participate in things, your willingness to actually be part of the solution versus just the problem and that is something that regardless of size, you go through. Now, let me just mention something about innovation for a second, and how that works in the size of companies, and the reason why I say this is, I think it's pretty important as you think about where you go, this university in particular has been all around innovation, it just embraces the whole notion of creativity and entrepreneurship, it embraces the notion of bringing whatever sized company that certainly has stimulated the creativity of all the startups, which now - some of the ones that are biggest, and it's hard to actually tell them this, because when you think about the likes of Intel and what not, some of the first venture-backed companies they are middle-aged or older, right, they are no longer the big start up. But that's - they started that way too. Google, Google is getting - they are more than teenage years, right? They are getting into their 30s - 20s and 30s, right? So when you start to think about that the whole change with regards to where you want to go and where you are trying to seek out what you are looking for has been important. For me, fundamentally, innovation has been the important element. What I saw through my career, and what I have really enjoyed from the very beginning, be it when I was in academics, be it when I went to big or small companies, is regardless of where I was, I found a way to surround myself with innovative processes, with innovation in terms of technology, with people who are very, very creative, and to almost always start something that was different from what the rest of the organization was doing, and then it didn't matter what size company I was at. And I started to realize you know what, that's pretty cool, I only learned that about 15 years into my career and I have been - although I look like I'm 38, I've been around since a while, right, I'm going to be 53 next year, just so everybody knows, and so I have been in career world for quite some time.

And I really came to realize, it's not the size of company per se, yes that can be if you would like more complex in terms of trying to get decisions made or understanding where you fit in all of it, but I will tell you that it is really about you and the folks that you surround yourselves with and how clear you are about what you want to do that really makes the difference. Now, I know you can't see these, but I'm going to read you the questions. Can you really innovate in a large company, and with a slew

of exciting digital health companies and the consumer health companies, remember I'm in healthcare, why the heck Sue would you go join a GE, how many of you are probably asking that question. Yeah. What, yeah you know, remember I have been part of small companies, I have been part of medium sized companies, I have been part of bigger companies too. I wish I could show you these slides and if they come back I will. But let me give you the following, and that is the reason why I went into GE is the following. First of all when Jeff Immelt calls you take the call, right? Number one. Number two is as I started to hear from Jeff, from Beth Comstock, from John Rice, from all the senior leadership at GE what they wanted to do in healthcare, the commitment they were talking about I was mesmerized, and I knew better about big companies because I have been part of them, and yet I kept talking, and talking, and it went months. And I have to tell you Healthymagination, and I'm going to give you a little bit of a sense of this, is the $6 billion commitment that GE has made to essentially help transform healthcare, and they want to enable better health for more people, that sounds pretty simple.

We've picked three pillars, and there was our quality, access, and affordability, we want to improve those three axes. Now, healthcare, what a mess, it is a juggernaut, I cannot even start to tell you, the deeper I dig it's remarkable, we need you guys to graduate fast and we need you to come into healthcare because we need help I'm not kidding, it is remarkable how messed up our systems are. Not just here in this country, although we have probably complicated it the most, but in the rest of the world too. Now, what GE said is, we have to help transform healthcare. We can't wait for the government to do it to us, or have somebody else do it for us, or wait around. Let me tell you why, GE spends a billion dollars a year in the US alone to fund healthcare costs for our employees, two billion rest of the world plus covered lives, so a total of $2 billion, US, rest of the world, covered lives. Every year, okay? It's 2 billion. Now, granted GE is a 150 billion in revenue company, so, yeah, lots of zeroes a 150 billion, you know, going from Affymetrix to GE, it was like okay, same problems, but big bunch of zeroes at the end. When you think about that $2 billion might seem like a little amount, but yet, think about what happened to General Motors, you guys have probably taken this as a case study and if you haven't already. So, General Motors spend, as you know, about $1,500 per vehicle on just healthcare cost, $1,700 and something for all benefits associated to employees, per car.

How much do Toyota spent? Anybody know? Take a guess. Not zero, they wish, not zero. $250 per car, in essence in healthcare cost. 250-1500, corporate competitive, national competitiveness is actually at stake. One of the things you might or might not have noticed that was actually up in the attributes, Excel Spreadsheet at the beginning that I put up was cause, was one of my big attributes. And I think as you've had a chance to experience other things, you start to realize that it's not just the position or the title or the compensation, it really is wanting to be able to participate in having an impact. And GE said, we've got to fix our own shop, we are not going to wait for everybody else to tell us how to do it. So, if we are going to do that how do we go about doing it, and it's set off with Healthymagination. It did the same thing with Ecomagination, there are two corporate initiatives within GE, Ecomagination and Healthymagination. So when you think of Healthymagination, think of us as the corporate incubator for disruptive methods, processes, and business models that actually can help transform healthcare.

Under the three axes I actually talked about already. And when I think about that it was very inspiring to me, and to hear the kind of commitment that GE was actually making, the leadership was making, was part of the reason why I went there. I've been there now just a little over five months, I've put Healthymagination this new corporate garage in place, the tool sets that I now have at my disposal as I have a venture on, that I have the privilege of being able to run, investing in the digital health companies, etcetera, that you talked about, I've got something now that we are forming called the Scalerater, and this is - think of it as bringing GE processes or GE proven methodologies to the start up to help them scale and get to commercialization or revenue faster, and that is something that startups would like to get to quicker. If you could help remove the barriers, help remove those risks that they encounter to actually get to either breakeven or get to commercialization, so that in fact customers can actually use their products, that's the hideous time for startups. So what GE is doing is bringing all of that plus all the GE methodologies and bringing its global footprint and its scale to bear, and I didn't tell you this at the beginning, but GE has I think now over almost 330,000 or 340,000 employees worldwide, it's in 150 different countries. You think about that type of scale, Fortune 10 Company, when it decides it wants to do something it's pretty serious about it. So that was part of the reason why I went to Healthymagination, and the fact that I could keep venture it seemed like the best of both worlds. The other part about it is healthcare in venture today, the classic model in terms of the big venture firms, and investing in the small companies, particularly the companies that have this incredible trajectory right now, which are these small digital health companies in health and wellness, when you think about what their returns might be, as part of a very, very big fund, they don't move the needle enough for the venture firm. And you guys know this in terms of the model. So as you think about going into venture make sure you find the right size venture fund, make sure you find the right kind of investment thesis that folks are making, because it really does make a difference.

So, Healthymagination is an innovative engine within GE, we are creating all the processes to actually be able to sustain innovation, and for those reasons in terms of being able to maintain the kind of activities I talked about, it's why I chose to come back into a big company. And I have to tell you when you think about the healthcare challenge, I really am not kidding when I tell you we need folks like you to apply your talents, your management talents, your leadership talents to this cause, because it is remarkable, what needs to happen. It's not just here like I said in this country, it's in rest of the world. So with that, I'm going to stop and I'm going to actually go ahead and see if I can take questions from the audiences. Yes? You said that teams would

be able to solve their problems within the team and the members would be accountable for what they do. But, to me, uncertainty besides accountability is a little bit, it's nothing - these two things cannot get along easily. For example, I was working in research business for a while and it's really uncertain, and when some things go wrong you can't really blame someone because it just is its nature, something of its nature. And being able to talk to other people, being able to resolve things being accountable is not easy. I'm not going to disagree. So the question he is asking is how do you marry up uncertainty and accountability.

And almost in any sized company by the way, because I'll tell you in the startup world when you are getting to a point where in fact you're running out of money and there is an uncertainty of whether you're going to get funded or not, that uncertainty is pressure and your accountability is even higher, because it's all about survival, okay. In the big company, the uncertainty is, do I get the allocation, don't I get the allocation, is this project going to survive, is it not going to survive. The pressure is a little different, no doubt about it. But, how do they co-exist, it's a great question and I don't think I have a clear answer that just goes magically, but I will tell you what I do when I have uncertainty in any sized company that I've been at, and that's I force an answer. And if I can't get an answer, I force it myself. And it's happened or I leave. There comes times when you decide it's time. You know, of the seven companies I've been - with organizations I've been with, I will tell you, I have only left one, because I wanted to. All the other ones doors opened and it was time to go, okay, and I walked through those doors. I left one, and I'm not going to tell you which one it was, but I will tell you it's because the uncertainty was so big and they just couldn't figure out what they wanted to do, but it was time to go.

Question up here. Thank you very much, and I really also appreciate the soft skills. And what do you say to a student who has - has an appreciation about soft skills and might even have that ability. But, hasn't quite defined for himself or herself the hard skills that companies in this economy - in this bad economy are looking for in an entry level involved. Oh boy! So, the question he is asking is how do you tell someone who is very aware of the soft skills and is aware of the tools and the hard skills that you've learned in school, how they actually use those in this bad economy to actually get a job. Did I paraphrase that right? Yeah, okay, so make the bad economy go away, that's the first thing, right? You know, part of embedded in that question is I believe the following. The economy sucks, and here we are, some of the most talented people in the world and we know we have to go out there and try to find something meaningful. How do we differentiate ourselves from the masses and how do we make people realize that we've got both the hard skills and the soft skills. My answer to it to be perfectly frank, and I do this all the time with folks is you got to network like crazy. People don't get hired just based on resume.

A lesson that someone taught me which I felt was quite interesting, and I didn't realize it at the time, was, you know, I was working 100 hours a week, I love to work, love to work, it's a problem by the way, if you are workaholic, it's a problem. Fix it now, get balance, get harmony, it's the only sickness that actually gets condoned around the world, just FYI, think of that, it's true. But, what I learned very quickly is that someone asked me how hard do you work at actually finding the right circumstances for yourself. And this was at a time that I decided to leave Affymetrix and my father had passed away, and it was time to take a pause. And I was trying to think about what would my next thing would be, and I didn't have to go right back to work, but I know deep in my heart I should. And so, I was anxious about it and I started talking to someone who in fact was pretty good at helping people find next roles. And what they told me is how hard do you work at networking? I said what do you mean, I network all the time. You guys are taught at school here at Stanford to network, to know how to network. What's the process, you've anatomized the process, you know how to follow-up, which I think is fantastic, a lot of other schools don't teach it as well. But I realized that if I worked 100 hours a week for a job why wouldn't I do that for myself, and it was one of those realities that hit me like network-network-network, take every opportunity you possibly can, because resumes don't get hired, people do.

And it's the connection that they do. Now, let me tell you the other thing, a lot of times you think, okay, I'm going to meet with this person once, boom I'm hired, doesn't happen that way, particularly around here in the Valley. The relationship building that you will establish because they get to know you, they get to know your face, they get to know your name, you follow up on email, you just check in, you find out, hey, remember we talked about three months ago just checking back in, want to make sure that you keep me front and center, you've been taught all of this. I'm news for you, it works, it actually works. Particularly if you've got the soft skills and you've got the hardcore tools and skill sets that you've acquired in school. It is tough out there, I'll tell you right now. We are in this situation where it's an incredible pool of talent that we get to hire from, but I will tell you what comes across and who gets hired is the person that's actually made the effort with me to come to know me, to come to know my values, to come to know the culture that we're building within the organization and as motherhood and apple pie as that might sound, it actually makes a difference. Because folks want to create teams, high performing teams that truly are values based and that can actually deliver. So, they need to know you, they need to see how you interact, they need to see how you follow-up. So, network-network-network, but people get to know you, don't think it happens the first time, you got to keep at it, and they will get to know you, they'll get to know your names.

I have a question following up on that is, how do you balance building your technical skills with the soft skills? And at what point, do you know too much networking or too many hard skills and how do you find that balance and that focus. Especially

when you are in school, you have plenty of time to meet so many individual people, but also that limited time you have access to all those resources to learn those technical skills. Wow! So, the question he asked is how do you know how to balance your time when you are trying to learn the hard skills and the soft skills, how do you know when you've over networked or you've under networked. How do you know when you are using too much of your hard skills or not enough of them, I don't know. I mean, honestly, that's a really tough question, because you know what I have come to learn is more than anything else, and I know this sounds like motherhood and apple pie in philosophy, but you've got to be authentically you. The thing that people sniff out, that fast is if you are faking it. We get that in an interview, that fast. If that's not you talking about your experiences, what matters to you, where you want to contribute, how you want to contribute, what you really care about, why you care about it, we figure that out pretty quickly, your teammates will figure it out pretty quickly. You know, I mean, God, you know people in this room that you probably don't work with for lots of reasons, and you know people that you're just going to gravitate to. That's why I say, in that Excel spreadsheet that I sort of put up, putting up the things that are values, culture, along with all the other hard stuff, right, all the Maslow's hierarchy stuff that you have to think about, put those up because from the very beginning if you can really figure that out for yourself, you know, the luckiest folks are those folks that really don't have a job because they are the folks that actually go to work because they want to go to work, right? And the reason typically why they want to go to work is because the culture and the actual value set and what they are doing makes a lot of sense.

I've been - you know I am a workaholic, I admit it. But I love to work. When I know it's time, when I have felt it, and I'll just tell you right now it was Kodak, I left. You just know and you - at that particular time, I just realized it's time to go. But no matter if I had soft skills or hard skills there, it wasn't going to work. You've got to find the environment that really, really makes you feel great, that's what I would say. And then you will naturally come through with whatever skill set at the particular moment. But whatever - the one thing I will say is be authentically you. One more question, yes. So this is on the Healthymagination.

What are the big approaches or areas that this is picking up on. So thank you for asking. She is asking about Healthymagination and what are some of the things that we are doing with regards to actually trying to fix healthcare and let me give you a little bit of a view of that and it goes like this. So the first place that GE decided to work on was its own employee base. With over 300,000 employees you might imagine it's a fantastic laboratory. I mean if your employees believe in it, if they do it, they are like other consumers, right? So first and foremost, it's set out and said, we are going to do like what you've heard so many other employers doing, but they did it in a different way which is to put health and wellness programs in place, that's the first thing. And they did a whole bunch of things, it wasn't just that. But what was different about how they went about putting health and wellness programs into place and it was the discipline of it. So you guys have probably heard about the rigor of GE, Six Sigma, leadership training, give you a sense, GE spends over billion dollars a year in training alone for employees, okay? So when they set their minds to it, in terms of putting something in place, they are going to put it in place. So these health and wellness programs, you could choose to use it or not, but leadership at every single site had to adopt it.

They had to put the right food into place. I joined GE, okay? I got in super late one night, so they have in this - what they call the guest house, they have this pantry downstairs that you go to and it's got food. Now, to be honest, I wanted a brownie, okay? I just wanted something chocolate and I went down, I could not find anything chocolate, I had dried fruits, I had nuts, I had all sorts of stuff. And it was like, okay, so they put all these programs into place and they make sure rigorously it's actually applied, number one. Two is they measure it. So the leaders of those particular sites get a site certification and they get audited. So this is a discipline, right? So the culture of health all of a sudden gets implemented across the board, and it gets reported up and it gets measured, and dashboards are created, it's incredible, it's in the fabric, so that's number one. And frankly, I think it is part of the process that needs to happen. Number two is it took some of its best business processes and went back and said, okay, now, how do we take some of those and apply it to healthcare because we should be able to do that, right? So think about it this way. So you've got a knee surgery that has to happen, what happens now, who holds the inventory for the knees, the artificial knee? Usually the hospital.

So goes supplier to hospital marked up to the individual who pays for it. Well, people go with insurance company, well guess who the insurance company is, the employer. So GE said, hold on a second, let's look at this, let's make it efficient, let's figure out the processes, and essentially took out the cost associated to it and is doing just-in-time sourcing with the consumer. We are doing a whole bunch of things, like in Saudi Arabia, just to give you an idea, so breast cancer screening something that can truly avoid the tragicness of breast cancer in late stage. Breast cancer, you might imagine in a culture like Saudi Arabia, the human - the woman's body is not something that, when you think about screening, et cetera, is openly allowed. So GE said, hold on a second, how do we think about a different culture and allow them to get the quality and the access to the kind of tools we have here in the US, which have, as you know, breast cancer has become much more of a chronic disease here than it is a terminal illness. And so what they did is they put into place working with Susan G. Komen Foundation, a very strong educational community program to the dads, the grandfathers, the sons, the uncles, you name it, of the women in the communities, to show them the benefits that in fact could happen and started to put these things in place. I can go on. I mean literally the programs are this many.

And it's taking all of these experiments and figuring out what works, how much they cost, how effective they are, and

bringing them together to bear as it relates to effectiveness. The one program that I have found exceptional, and this is regardless of what your politics are, okay? And this was up in Cincinnati, even before ACOs were really in vogue. They said let's bring collaboration together, let's bring large self-insured employers together up in Cincinnati, one of our biggest footprints of employees, and let's have them come together to figure out what, in fact, we can do with regards to this healthcare juggernaut. We brought MDs in, we brought a whole bunch of hospitals in, we brought municipalities in, and what we said was, how do we figure out how to actually help improve cost, improve access, improve quality, et cetera. After only two years of working together, really looking at this, particularly applying what is called the PCMH model, and I suspect you guys are going to hear a lot about this, which is, it's the Physician (sic) Centered Medical Home and it's all about continuum of care and having a primary care provider actually follow you through. Instead of having 200 different specialists that follow you through your life, you actually have one doc that helps coordinate care and this is something that is going to get implemented across the board. We proactively worked to actually get this put in place in the city of Cincinnati. Just looking at the emergency room visits alone, over the last - almost two years now, Cincinnati claims that they have saved $200 million and the rate of customer satisfaction in Cincinnati for those who have participated is just off the charts. So when you think about what is Healthymagination doing? I could go on for hours honestly and I am out of time, with regards to the projects. So with that, thank you very much for your attention.

Good day.